

METHOD FOR GROWING III-V COMPOUND SEMICONDUCTOR CRYSTAL ON SI SUBSTRATE

METHOD FOR GROWING III-V COMPOUND SEMICONDUCTOR CRYSTAL ON SI SUBSTRATE

Patent Number: JP1009897
Publication date: 1989-01-13
Inventor(s): MATSUMOTO TAKU
Applicant(s): NEC CORP
Requested Patent: ☐ JP1009897
Application Number: JP19870165704 19870701
Priority Number(s):
IPC Classification: C30B29/40; C30B25/14
EC Classification:
EC Classification:
Equivalents: JP2576127B2

Abstract

PURPOSE: To grow the titled superconductor crystal, having good crystallinity and capable of selective growth on a substrate, by alternately feeding a gas species containing a group III constituent element and a gas species containing a group V constituent element onto a silicon substrate having a formed mask pattern.

CONSTITUTION: A source boat 12 of a group III constituent element is placed on the upstream side of a growth chamber 11 in the lower stage and a carrier gas and HCl gas are fed from the upstream side thereof to adsorb the formed chloride of the group III constituent element on a silicon substrate 14 having a formed mask pattern. The substrate 14 is then moved to a growth chamber 13 in the upper stage and a gas species containing a group V constituent element is fed and adsorbed on the substrate 14. The above-mentioned operations are alternately repeated to carry out atomic layer epitaxial growth of a III-V compound semiconductor crystal on the substrate 14.